IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

SUZUKI, et al.

Group Art Unit: 1752

Appln. No.: 09/712,182

Examiner: Thornton, Y.M.

Filed: November 15, 2000

Title: METHOD OF PROCESSING LIGHT-SENSITIVE MATERIAL

* * * * *

January 23, 2003

RESPONSE

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

In response to the Office Action dated October 23, 2002, reconsideration and allowance are requested in view of the attached Rule 132 Declaration and the following remarks.

The applicants respectfully traverse the rejection of claims 1-16 under 35 USC 102(b) in view of Coppens et al., USP 5,273,858 (Coppens '858) This reference does not anticipate the presently claimed invention or make it obvious.

Before specifically addressing the cited reference, the applicants provide the following remarks regarding the present invention which the applicants believe will be helpful in understanding the novelty of the invention.

An object of the present invention is to provide a method of processing a light-sensitive material which can uniformly and completely remove a light-sensitive layer within a short period of time without using a washing solution (see description on page 7, lines 2-5 of the present specification).

The present invention provides a method of processing a light-sensitive material which can remove the light-sensitive layer uniformly and completely within an extremely short period of time, i.e., within 5 seconds, further within 3 seconds with the time of contacting the light-sensitive layer with a peeling means. Such an object of the present invention can be accomplished by employing a peeling means as defined for example in claim 1, i.e., a material which satisfies a liquid-absorbing rate defined in the last five lines of the claim 1 now pending.

Differences between a receiving means disclosed in Coppens '858 and a peeling means disclosed in the present invention are explained in detail below.

The receiving means disclosed in Coppens '858 comprises a paper or film base coated with a hardened gelatin layer comprising a matting agent as disclosed at column 24, lines 65-67 of the reference.

The above-mentioned receiving means disclosed in Coppens '858 is, as described on page 3, lines 15-24 of the present specification, well known as conventional art to the applicants of this application. Among the U.S. Patents mentioned on page 3 of the present specification, USP 5,068,165 (Coppens et al.), which was also cited in the first Office Action of this case, discloses the same receiving means at column 23, lines 12-19 thereof as that of the presently cited Coppens '858.

The receiving means disclosed in both patents of Coppens et al. do not satisfy the liquid-absorbing rate defined in claim 1 of the present application. Also, according to the receiving means disclosed in either Coppens et al., an object of the present invention that is to remove the light-sensitive layer uniformly and completely within a short period of time cannot be accomplished.

The above argument can be clearly supported by the description of Example 4 on pages 32-35 of the present specification.

In Example 4 of the present specification, Peeling sheet C is a material in which a gelatin layer containing 5% by weight of silica particles (matting agent) having an average particle size of 5 μm based on the amount of gelatin is coated on a polyethylene resin-coated paper with a gelatin amount of 3 g/m^2 and cured as described on page 34, lines 6-9 of the present specification. The above-mentioned peeling sheet C is intended to the receiving means disclosed in Coppens '858

However, this peeling sheet C does not satisfy the liquid-absorbing rate defined in pending claim 1 of the present application as described on page 34, lines 28-34 of the present specification. That is, the peeling sheet C had liquid-absorption characteristics that a liquid absorption amount (A) within 0.1 second after getting in contact with the above-mentioned developing solution was 4 ml/m^2, and a liquid absorption amount (B) within 0.2 second after getting in contact with the above-mentioned developing solution was 9 ml/m^2, so that $\{(A)/(B)\}x100=44\%$ which does not satisfy the requirement of the present invention of 60% or more.

Moreover, the peeling sheet C cannot peel off an emulsion layer under the conditions in which a peeling sheet A of the present invention can peel off the emulsion layer. This is an extremely short period of contacting time as described on page 34, lines 28-34 of the present specification.

As described above, the applicants have shown that the receiving means does not satisfy the liquid-absorbing rate defined in claim 1 in the description of the specification.

To better demonstrate that the presently claimed invention is not disclosed or suggested by the teachings of Coppens '858, the applicants provide experimental

results based upon Example 4 of the present application. The experimental evidence is presented in a Rule 132 Declaration which is attached to this Response.

The Examiner is asked to carefully review the attached Rule 132 Declaration.

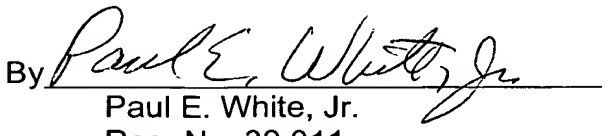
In the Declaration, experiments were performed to compare the presently claimed invention with Coppens '858. The experimental results demonstrate that the receiving means of Coppens '858 does not satisfy the liquid-absorbing rate defined in pending claim 1 of the present application. The Rule 132 Declaration shows new and unexpected results of the presently claimed invention.

The applicants submit that not only is the presnelty claimed invention fully allowable under Section 102(b) but is also allowable under Section 103(a) in view of the cited art.

In view of the above and the attached Rule 132 Declaration, it is believed that this application is in condition for allowance and a Notice to that effect is respectfully requested.

Respectfully submitted,

Manelli Denison & Selter, PLLC

By 

Paul E. White, Jr.
Reg. No. 32,011
Tel. No.: (202) 261-1050
Fax No.: (202) 887-0336

2000 M Street, N.W.
Seventh Floor
Washington, D.C. 20036
(202) 261-1000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	:	Shigeyoshi SUZUKI et al.
Serial No.	:	09/712,182
Filed	:	November 15, 2000
For	:	METHOD OF PROCESSING LIGHT-SENSITIVE MATERIAL
Art Unit	:	1752
Examiner	:	Yvette C. Thornton

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

DECLARATION UNDER 37 CFR 1.132

S I R:

I, Yasuo TSUBAI do declare and state as follows:

1. I am one of the joint inventors of the present U.S. Patent Application as identified above and understand the English language. I studied the Official Action dated October 23, 2002 received in said application.

2. In order to show the difference between the present invention and the invention of Coppens et al. (US 5,273,858), the following

comparative experiments shown on pages 32-35 of the present specification were conducted under my supervision.

3. Comparative experiments

Experiment

In the same manner as in Example 1 mentioned on pages 28-31 of the present specification, physical development nuclei layer was coated on an aluminum support and dried.

In the same manner as in Example 1 mentioned above, a silver halide emulsion was prepared.

A surfactant was added to the thus prepared silver halide emulsion to prepare a coating solution. This coating solution for an emulsion layer was coated on the aluminum support on which the above-mentioned physical development nuclei had been coated, so that an amount of silver became 2 g/m^2 (which is 3.15 g in terms of silver nitrate) and a gelatin amount of 2 g/m^2, followed by drying to obtain a lithographic printing material.

On the thus prepared lithographic printing material (A2 size), an image was outputted by an output machine having a red LD laser at 633 nm as a light source. Then, the lithographic printing material was processed by a processor for plate making shown in Fig. 1 to obtain a lithographic printing plate.

The developing solution, the neutralizing solution and the finishing solution used were the same as those of Example 1.

The developing solution was coated by using the coating apparatus

(1) shown in Fig. 1 so that the amount thereof became 70 ml per 1 m² of the lithographic printing material (P). The temperature of the developing solution was 23 °C. Fifteen seconds after coating the developing solution, a master roll (5) of a peeling sheet was moved so that a roll state-peeling sheet (2) was brought into close contact with the plate surface by nip rolls (3) and a silver halide emulsion layer was peeled off. Thereafter, the peeling sheet (2) was rolled in a roll state (6). Squeegee rolls (4) were not used. The following materials were used for preparing the peeling sheet.

Peeling sheet A: A material having a void layer prepared by coating on a polyethylene resin coated paper an aqueous dispersion in which 100 parts by weight of dry-method silica having an average grain size of 8 nm and 40 parts by weight of polyvinyl alcohol were dispersed in water with a polyvinyl alcohol amount of 6 g/m².

Peeling sheet B: A material comprising an aqueous solution containing gelatin and polyvinyl pyrrolidone with a weight ratio of 1:1 being coated on a polyethylene resin coated paper in an amount of a polymer solid component of 6 g/m².

Peeling sheet C: A material in which a gelatin layer containing 5% by weight of silica particles having an average particle size of 5 μm based on the amount of gelatin is coated on a polyethylene resin-coated paper in a gelatin amount of 3 g/m² and cured.

In the measurement of using a dynamic scanning liquid-absorption meter (available from Kyowa Seiko K.K., trade name: KM350D), the peeling sheet A had liquid-absorption characteristics that a liquid-absorption amount within 0.1 second after getting in contact with the above-mentioned developing solution was 36 ml/m²,

and a liquid-absorption amount within 0.2 second after the same was 43 ml/m². The peeling sheet B had liquid-absorption characteristics that a liquid-absorption amount within 0.1 second after getting in contact with the above-mentioned developing solution was 6 ml/m², and a liquid-absorption amount within 0.2 second after the same was 13 ml/m². The peeling sheet C had liquid-absorption characteristics that a liquid-absorption amount within 0.1 second after getting in contact with the above-mentioned developing solution was 4 ml/m², and a liquid-absorption amount within 0.2 second after the same was 9 ml/m².

In spite of instantaneous contacting time (about 0.1 to about 0.3 second which may vary depending on the conveying speed of the plate), the entire silver halide emulsion layer was transferred to the coating layer of the roll state-peeling sheet A. Waste liquor of the developing solution was substantially not generated. To the contrary, in the peeling sheets B and C, no peeling of the emulsion layer could be done.

The lithographic printing plate peeled off by using the peeling sheet A was then successively coated thereon the neutralizing solution and the finishing solution by using the same coating apparatuses as that of the developing solution-coating apparatus. Drying apparatuses (not shown in the figure) were provided between the neutralizing solution-coating apparatus (now shown in the figure) and the finishing solution-coating apparatus (now shown in the figure), and after the finishing solution-coating apparatus so that the neutralizing solution and the finishing solution were dried. Coating amounts of the neutralizing solution and the finishing solution were made each 20 ml per 1 m² of the lithographic printing plate.

Thus, plate-making procedures could be carried out without substantially generating waste liquors between the development procedure and the finishing procedure. With respect to the lithographic printing plate prepared by using the peeling sheet A, printing was carried out by using a printer Heidelberg TOK (trade name, an offset printing press manufactured by Heidelberg Co.), ink (New Champion Black H, trade name, produced by Dainippon Ink Co., Japan) and commercially available dampening solution for a PS plate. As a result, it was a lithographic printing plate excellent in ink-receptive properties and having a high printing endurance of 100,000 sheets or more.

<Consideration>

In the above experiment, the peeling sheet C is a material in which a gelatin layer containing 5% by weight of silica particles (matting agent) having an average particle size of 5 μm based on the amount of gelatin is coated on a polyethylene resin-coated paper with a gelatin amount of 3 g/m^2 and cured as described on page 34, lines 6-9 of the present specification. That is, the above-mentioned peeling sheet C is intended to the receiving means disclosed in Coppens et al.

However, this peeling sheet C does not satisfy the liquid-absorbing rate defined in Claim 1 of the present application as described on page 34, lines 28-34 of the present specification. That is, the peeling sheet C had liquid-absorption characteristics that a liquid absorption amount (A) within 0.1 second after getting in contact with the above-mentioned developing solution was 4 ml/m^2, and a liquid absorption amount (B) within 0.2 second after getting in contact with the above-mentioned developing solution was 9 ml/m^2, so that

{(A)/(B)}x100=44% which does not satisfy the requirement of the present invention of 60% or more.

Moreover, the peeling sheet C cannot peel off an emulsion layer under the conditions in which a peeling sheet A of the present invention can peel off the emulsion layer which is an extremely short period of contacting time as described on page 34, lines 28-34 of the present specification.

As described above, the present inventors sufficiently admit the receiving means of Coppen et al. as a prior art and they already showed that the receiving means does not satisfy the liquid-absorbing rate defined in Claim 1 in the description of the specification.

According to the above, I do not believe that the present invention is anticipated by Coppens et al.

4. I further declare that all statements made herein of may own knowledge are true and that all statements made in information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: January 9, 2002

By: Yasuo Tsubai
Yasuo TSUBAI